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WORK PLAN FOR CAP REPAIR ACTIVITIES AT OPERABLE UNIT 2 (OU 2) NTC ORLANDO
FL
12/28/2001
TETRA TECH

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From: Tsangaris, Steve/TPA/CCI [stsangar@CH2M.com]
Sent: Friday, December 28, 2001 10:11 PM
To: David Grabka (E-mail); Barbara Nwokike (E-mail); Gregory D. Fraley (E-mail); McCoy, Steven; Mark Salvetti (E-mail)
Cc: Haas, Craig/TPA/CCI; Ivery, Carlton/DFB
Subject: OU 2 Cap Repair Work Plan Memorandum



OU 2 Cap Repair Work
Plan.pdf

Team

The attached PDF includes our work plan for address cap repairs at OU 2. The short story is this -

Heavy rains this past summer have eroded areas of the cap along the landfill boundaries. During the summer season, we placed hay bales and fixed silt fence(s) as necessary as a "band aid" approach. We're now planning something a bit more substantial, including importing around 500 yards of dirt to fill in eroded areas, and placement of sod to better establish vegetation in the eroded areas. Had the areas we're repairing had better vegetation to begin with, we would not have had the erosion problems.

That's basically it - pretty short and sweet. Attached is the work plan for your all's review. Again, if someone needs additional information and/or a hard copy, please let me know.

thanks - Steve

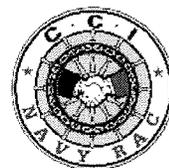
<<OU 2 Cap Repair Work Plan.pdf>>

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TECHNICAL MEMORANDUM

Work Plan for Cap Repair Activities at Operable Unit 2 Naval Training Center Orlando

PREPARED FOR: Barbara Nwokike - Southern Division, NAVFAC

PREPARED BY: Steve Tsangaris - CH2M HILL Constructors, Inc.

COPIES: Greg Fraley- USEPA
David Grabka - FDEP
Steve McCoy - TetraTech NUS

Craig Haas - CH2M HILL
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CONTRACT: N62467-98-D-0995

CTO: 0049

DATE: December 28, 2001

1. Introduction

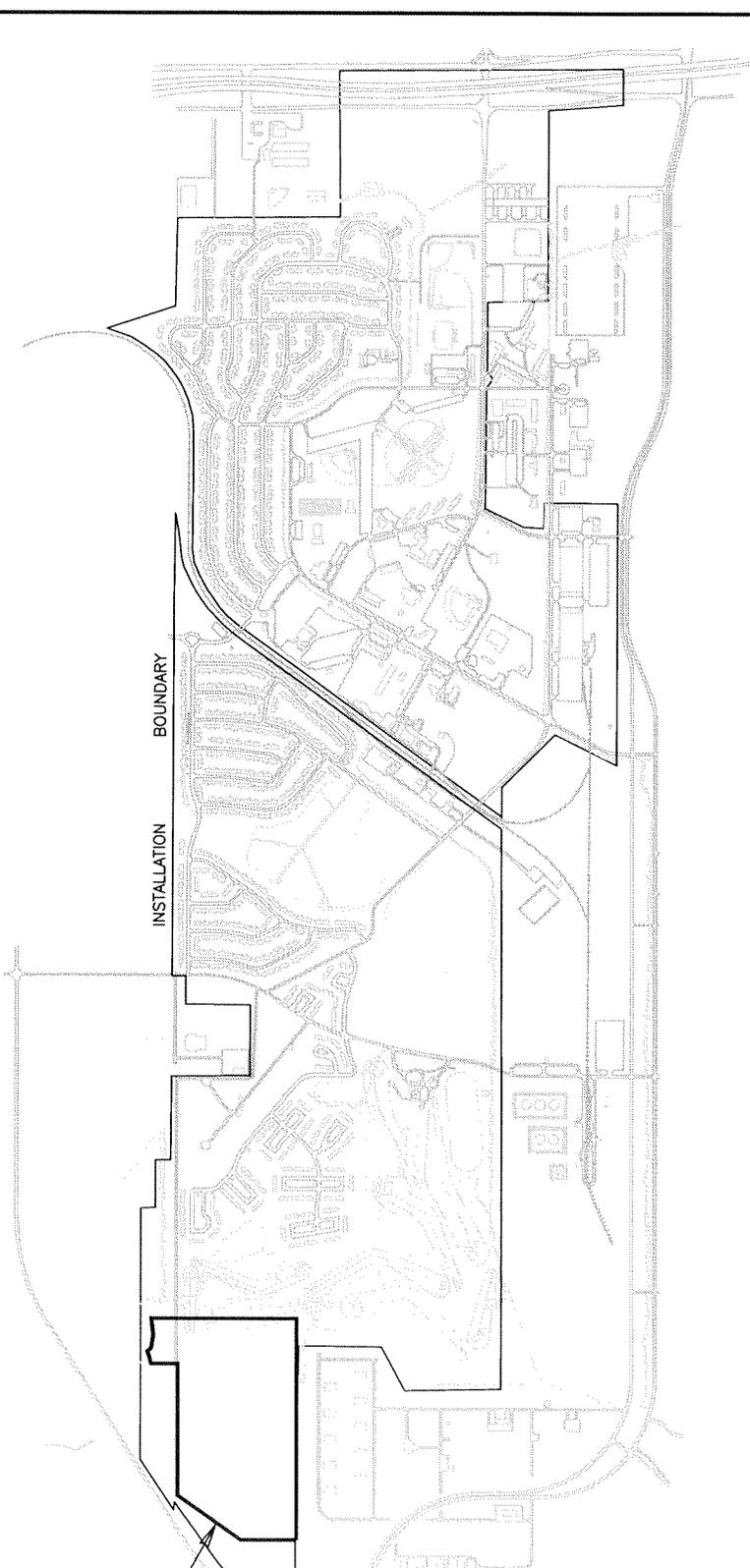
This memorandum presents the Work Plan for activities related to the cap repair activities at Operable Unit (OU) 2, Naval Training Center (NTC) Orlando. The purpose of this Work Plan is to outline the procedures to be used to install additional soil cover and sod over certain portions of the former McCoy Annex Landfill. This work is being performed under Response Action Contract No. N62467-98-D-0995, Contract Task Order (CTO) No. 0049.

This document includes a description of the following:

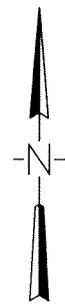
- Project Background
- Project Objectives
- Project Organization
- Schedule
- Project Activities
- Waste Management Plan
- Construction Documentation

2. Project Background

NTC Orlando consists of 2,072 acres in Orange County, Florida, and includes four discrete facilities - Main Base, Area C, Herndon Annex, and McCoy Annex. McCoy Annex encompasses approximately 877 acres and is located approximately 8 miles south of the Main Base and west of Orlando International Airport. The former McCoy Annex Landfill (OU-2) is located in the southern part of McCoy Annex. An area location map is provided in Figure 1.



McCoy
ANNEX



OU-02
LOCATION



FIGURE 1
AREA LOCATION MAP
OPERABLE LIMIT - OU-02
McCoy ANNEX

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

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The landfill was a former industrial waste disposal site. The last reported productive use of the site was in 1978. In July to September 2000, an additional 2-feet of landfill cover material was placed over approximately 25 acres of the former landfill where minimal cover existed. A site location map is provided in Figure 2.

Ch2M HILL Constructors, Inc. (CCI) has been inspecting and monitoring the integrity of the landfill cap and silt fencing in place at the landfill periodically over the past year. Significant rainfall during the summer season of 2001 began eroding areas of the cap, and hay bales were placed to help minimize cap erosion. It should be noted that at no point during inspections was waste material observed in any of the eroded locations.

More permanent measures, including importing of additional fill and sodding areas, silt fence replacement, are necessary to help ensure the integrity of the cap at the site. This Work Plan describes proposed cap repair activities.

3. Project Objectives

The objective of this project is to minimize cap erosion. Clean backfill material will be placed over a total of 12 predetermined areas throughout the landfill where the existing cover shows visual evidence of erosion. Once the soil cover is applied, light grading, sodding, and fertilization will be required as part of the site restoration activities. Fertilization and irrigation maintenance of these areas would be conducted for a period of 90 days. Existing damaged silt fencing will be removed and replaced in predetermined areas.

4. Project Organization

The Southern Division, U.S. Naval Facilities Engineering Command (NAVFAC) is the lead agency for this project. Mrs. Barbara Nwokike, Southern Division NAVFAC Remedial Project Manager (RPM), is responsible for providing contract oversight for the Navy. A summary of key project personnel is presented in Table 1.

4.1 Subcontractor Information

A subcontractor(s) will be procured for the cover placement, silt fencing installation, and sodding activities as necessary.

4.2 CCI Project Team

Members of the CH2M HILL project team are:

- Project Manager – Steve Tsangaris, P.E.
- Site Supervisor/Site Safety Coordinator – Craig Haas
- Project Quality Control (QC) Manager – Jennifer Ottoson
- Field Team Members
 - Jennifer Ottoson
 - Carlton Ivery
 - Tammy Plumlee

Contact information for key CCI project team members is included in Table 1.

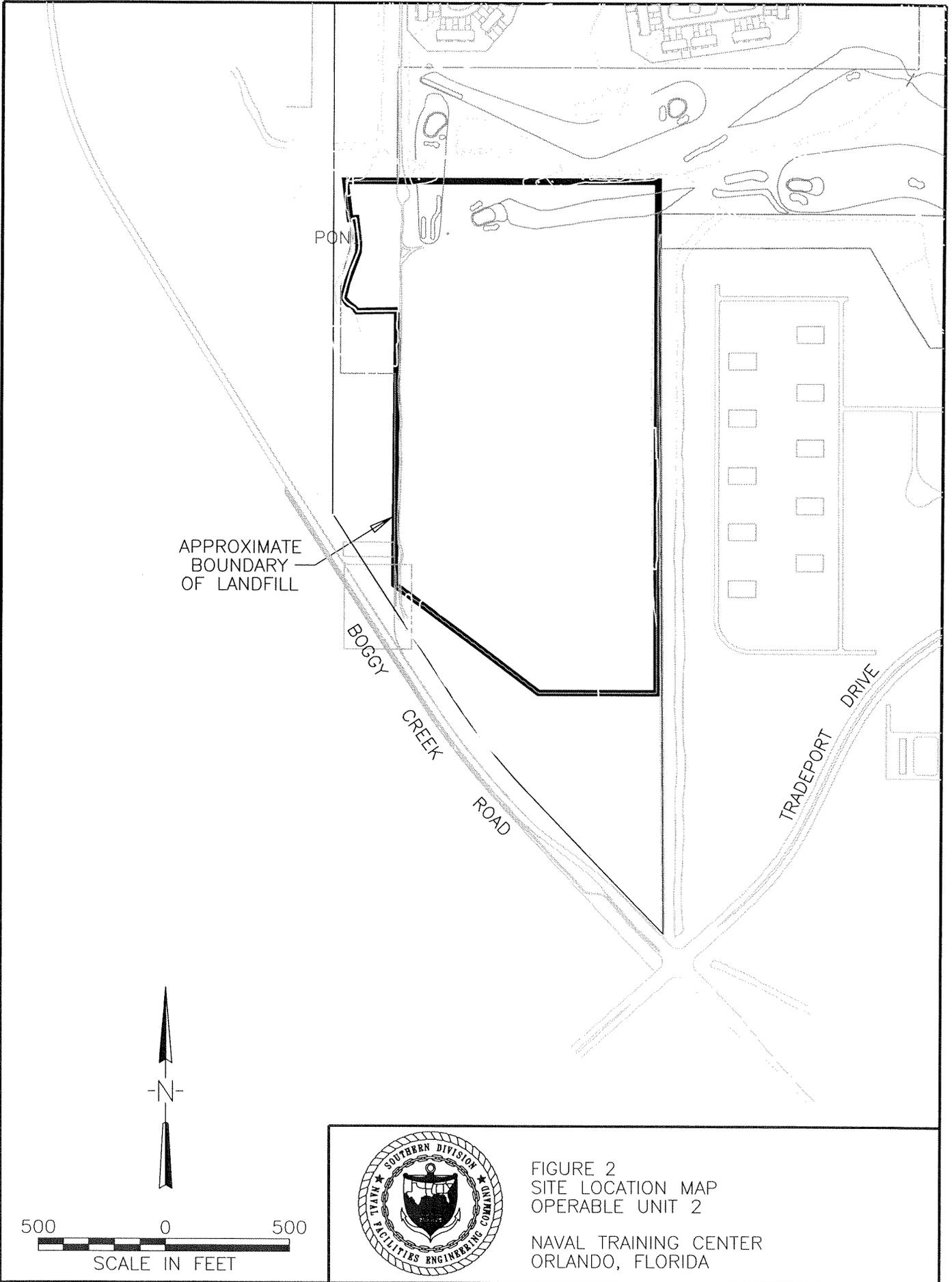


TABLE 1
Project Personnel Directory for NTC Orlando

Contact	Role	Address	Phone No.	Fax No.	E-Mail
Barbara Nwokike	Navy Remedial Project Manager	U.S. Naval Facilities Engineering Command Southern Division, Code 1873 2155 Eagle Drive N. Charleston, SC 29406	(843) 820-5566	(843) 820-5563	nwokikebr@efdsouth.navy.mil
Scott Newman	Program Manager	CCI 115 Perimeter Center Place, N.E., Suite 700 Atlanta, GA 30346-1278	Atlanta (770) 604-9182 x 519 Charleston (843) 746-8882	(770) 604-9183	snewman@ch2m.com
Rich Rathnow	Health & Safety Manager	CH2M HILL 151 Lafayette Dr, Ste. 110 Oak Ridge, TN 37830	(865) 483-9032	(865) 481-3541	rrathnow@ch2m.com
Eric Brothers	Contracts Administrator/ Project Controls	CCI 115 Perimeter Center Place, N.E., Suite 700 Atlanta, GA 30346-1278	(770) 604-9182	(770) 604-9183	ebrothers@ch2m.com
Theresa Rojas	Program Quality Control	CCI 115 Perimeter Center Place, N.E., Suite 700 Atlanta, GA 30346-1278	(770) 604-9182 x 568	(770) 604-9183	trojas@ch2m.com
Lisa Schwan	Project Chemist	CCI 115 Perimeter Center Place, N.E., Suite 700 Atlanta, GA 30346-1278	(770) 604-9182 x 561	(770) 604-9183	lschwan@ch2m.com
Steve Tsangaris	Project Manager	CCI 4350 W. Cypress Street, Suite 600 Tampa, FL 33607	(813) 874-0777 x 4305 Cellular phone (727) 492-7467	(813) 874-3056	Stsangar@ch2m.com
Craig Haas	Site Supervisor	CCI 4350 W. Cypress Street, Suite 600 Tampa, FL 33607	(813) 874-0777 Cellular phone (407) 709-2346	(813) 874-3056	Chaas@ch2m.com
Jennifer Ottoson	Field Hydrogeologist/ Project QC Manager	205 Indian River Dr. Cocoa, Fl 32922	321-636-7575	321-636-7522	jottoson@ch2m.com

5. Schedule

Cap repair activities will be completed in February 2002 in conjunction with soil removal and disposal projects being completed by CCI at other sites at McCoy Annex.

6. Project Activities

6.1 Erosion and Sediment Control

New silt fencing will be installed where existing erosion control barriers are damaged in accordance with the Storm Water Pollution Protection Plan (SWPPP) for this site. The silt fencing will be reinstalled at the same locations at 20-foot centers or as required by the manufacturer. The silt fencing fabric will meet or exceed the mesh size and height of the existing silt fencing. The silt fencing supports (at 20-foot centers) will be installed vertically to a depth sufficient enough to prevent undermining or washout from heavy rainfall or erosion.

6.2 Clearing and Grubbing

Loose branches, weeds, and shrubs considered obstacles will be cleared from each of the 12 designated areas receiving soil cover. No trees will be removed as part of the cap repair activities.

6.3 Landfill Soil Cover

Clean backfill material will be placed over areas of the landfill identified as requiring additional soil cover. These areas include 12 predetermined locations and will require approximately 530 cubic yards of material based on site reconnaissance and field measurements. Figure 3 shows the locations of the 12 designated areas. Table 2 summarizes each cover replacement location and estimated volumes required.

TABLE 2
OU 2 Landfill Soil Cover Summary

Area	Soil Cover (cubic yards)	Sod (square feet)
1	60	200
2	40	150
3	80	500
4	20	100
5	40	280
6	60	320
7	20	200
8	20	150
9	20	150
10	30	200
11	100	500
12	40	200
Total Estimated Volume	530	2,950

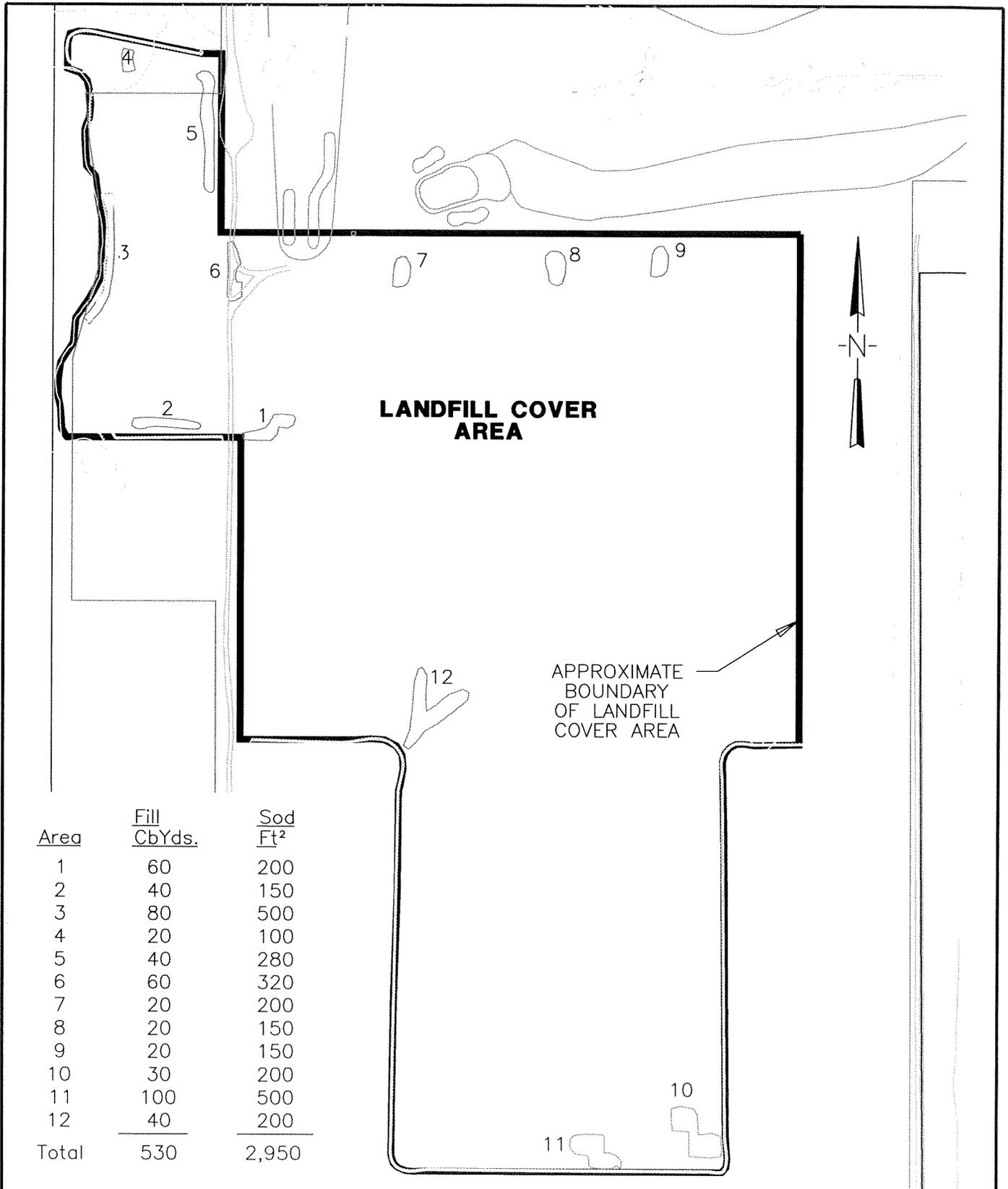


FIGURE 3
LANDFILL SOIL COVER
LOCATION MAP

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200 0 200
SCALE IN FEET

Uncontaminated (clean) backfill materials from an offsite source(s) will be furnished to completely cover the 12 designated areas. To document that the offsite material is uncontaminated, one representative sample from the offsite source will be collected and analyzed (on a maximum 7-day turnaround time [TAT]) for the presence of the following using U. S. Environmental Protection Agency (USEPA) SW-846 procedures and Level III quality Assurance/Quality Control (QA/QC) protocols:

- Target Compound List (TCL) volatile organic compounds (VOCs) - (Methods 5035/8260B)
- TCL semi-volatile organic compounds (SVOCs) - (Method 8270C)
- TCL pesticides (Method 8081A)
- Herbicides (Method 8151)
- Polychlorinated biphenyls (PCBs) - (Method 8082)
- Target Analyte List (TAL) metals - (Methods 7471 and 6010B)
- pH

The analytical results will be provided to Southern Division, NAVFAC to demonstrate that the offsite soil source(s) is free from contamination prior to transporting the material to the site.

Soil cover material from the offsite source will be cohesive or cohesionless native (i.e., not recycled) material, free of contamination, muck, stumps, roots, brush, or vegetative matter. No rocks larger than 3 inches in diameter will be allowed.

The soil placement operations will be determined by the CCI site supervisor. Trucks delivering soil will deposit the soil near its final location. The soil will then be spread with a dozer, maintaining shallow soil lifts (6 to 9 inches) to allow the tracks of the equipment and truck traffic to compact the soil. Grade stakes will be placed in the fill areas. Each grade stake will be marked to land level indicating the top of the fill mark based on the slope in the area. Grade stakes will be removed as the fill is placed to finish grade. No survey work is planned under this scope of work. Dust control measures will be maintained during all soil placement operations.

Site access for trucks delivering soil cover material will be established from the west of the landfill site, off Boggy Creek Road. Construction of temporary driveways, alternative access routes, and drainage culverts will not be required as part of this scope of work.

The existing temporary aggregate driveway from Boggy Creek Road to the site will be used to enter the landfill area. Maintenance of this aggregate driveway is not planned under this scope of work.

6.3 Final Grading and Site Restoration

After the soil cover has been placed, the material will be final-graded and hand-raked following machine-grading to provide a smooth, uniform surface that promotes gravity drainage. Care will be taken to maintain a uniform cover surface and slope; depressions and ponding will be minimized. The backfilled areas will be graded to provide drainage and the disturbed areas will then be seeded, fertilized, and mulched. The finished surface will be free of trash and debris.

Site restoration work will include sodding with approximately 2,950 square feet of Bahia grass, followed by fertilizing and irrigation of all newly soil covered areas. The sodded areas will require to be maintained (fertilization and hydration) for a period of 90 days. Any newly applied sod that does not survive within the 90-day period will be replaced.

Final walk-through with CCI and the Navy Remedial Project Manager (RPM) and base personnel will be accomplished to ensure agreement on acceptability of site restoration.

7. Waste Management Plan

As part of the field activities, waste material will be generated in association with personal protection and cap repair activities. Every effort will be made to minimize the waste generated and to dispose of the material in the most appropriate, cost-effective manner. Waste material is anticipated to be uncontaminated (since the work areas are uncontaminated), and as such, the material will be disposed of as uncontaminated solid waste.

8. Construction Documentation

Upon completion of the cap repair activities, a construction documentation technical memorandum will be prepared to describe the details of work at the site.

The construction documentation report will also include applicable record drawings sealed by a registered Florida Professional Engineer.